

10/019116
531 Rec'd PCT 21 DEC 2001

S/N unknown

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

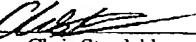
Applicant:	KUMAGAWA et al.	Docket No.:	10873.846USWO
Serial No.:	unknown	Filed:	concurrent herewith
Int'l Appln No.:	PCT/JP01/03474	Int'l Filing Date:	April 23, 2001
Title:	DISPLAY APPARATUS AND METHOD FOR DRIVING THE SAME		

CERTIFICATE UNDER 37 CFR 1.10

'Express Mail' mailing label number: EV 037641206 US

Date of Deposit: December 21, 2001

I hereby certify that this correspondence is being deposited with the United States Postal Service 'Express Mail Post Office To Addressee' service under 37 CFR 1.10 on the date indicated above and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

By: 
Name: Chris Stordahl

PRELIMINARY AMENDMENT

Box PCT
Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

In connection with the above-identified application filed herewith, please enter the following preliminary amendment (marked-up copy attached):

IN THE SPECIFICATION

A courtesy copy of the present specification is enclosed herewith. However, the World Intellectual Property Office (WIPO) copy should be relied upon if it is already in the U.S. Patent Office.

IN THE DRAWINGS

Please replace Figures 34-44 with the attached drawing sheets and their copies showing the additions marked in red.

IN THE CLAIMS

Please cancel claims 53, 60, 74 and 83.

Please amend the following claims:

5. (Amended) The display apparatus according to claim 1, wherein each capacitance element of the pixel is set so a second capacitance ratio α_{st} shown by (Expression 57) is substantially constant.

(Expression 57)

$\alpha_{st} = C_{st}/C_{tot}$

6. (Amended) The display apparatus according to claim 1, wherein each capacitance element of the pixel is set so the second capacitance ratio α_{st} shown by (Expression 58) increases continuously or in stages according to the distance from the power feeding edge of the scanning electrode.

(Expression 58)

$\alpha_{st} = C_{st}/C_{tot}$

7. (Amended) The display apparatus according to claim 1, wherein the display medium is a liquid crystal.

8. (Amended) The display apparatus according to claim 1, further comprising a means for overlapping a voltage to the driving circuit of the scanning signal via the storage capacitance.

19. (Amended) The display apparatus according to claim 11, wherein each capacitance element of the pixel is set as the fourth capacitance ratio α_{st1} shown by (Expression 60) is substantially constant.

(Expression 60)

$$\alpha_{st1} = C_{st1}/C_{tot}$$

20. (Amended) The display apparatus according to claim 11, wherein each capacitance element of the pixel is set so the fourth capacitance ratio α_{st1} shown by (Expression 61) increases continuously or in stages according to the distance from the power feeding edge of the scanning electrode.

(Expression 61)

$$\alpha_{st1} = C_{st1}/C_{tot}$$

21. (Amended) The display apparatus according to claim 11, wherein a parallel monotonic capacitance is not formed between the pixel electrode and the opposite electrode via the display medium.

27. (Amended) The display apparatus according to claim 11, further comprising a means for overlapping a voltage to the driving circuit of the scanning signal via the storage capacitance.

56. (Amended) The display apparatus according to claim 54, wherein the gate pulse is applied to more than two gate wirings at the same time.

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5. (Amended) The display apparatus according to [any one of claim 1 to claim 4] claim 1,
wherein each capacitance element of the pixel is set so a second capacitance ratio α_{st} shown by
(Expression 57) is substantially constant.

(Expression 57)

$$\alpha_{st} = C_{st}/C_{tot}$$

6. (Amended) The display apparatus according to [any one of claim 1 to claim 4] claim 1,
wherein each capacitance element of the pixel is set so a the second capacitance ratio α_{st} shown
by (Expression 58) increases continuously or in stages according to the distance from the power
feeding edge of the scanning electrode.

(Expression 58)

$$\alpha_{st} = C_{st}/C_{tot}$$

7. (Amended) The display apparatus according to [any one of claim 1 to claim 4] claim 1,
wherein the display medium is a liquid crystal.

8. (Amended) The display apparatus according to [any one of claim 1 to claim 4] claim 1, further
comprising a means for overlapping a voltage to the driving circuit of the scanning signal via the
storage capacitance.

19. (Amended) The display apparatus according to [any one of claim 11 to claim 17] claim 11, wherein each capacitance element of the pixel is set as the fourth capacitance ratio α_{st1} shown by (Expression 60) is substantially constant.

(Expression 60)

$$\alpha_{st1} = C_{st1}/C_{tot}$$

20. (Amended) The display apparatus according to [any one of claim 11 to claim 17] claim 11, wherein each capacitance element of the pixel is set so the fourth capacitance ratio α_{st1} shown by (Expression 61) increases continuously or in stages according to the distance from the power feeding edge of the scanning electrode.

(Expression 61)

$$\alpha_{st1} = C_{st1}/C_{tot}$$

21. (Amended) The display apparatus according to [any one of claim 11 to claim 17] claim 11, wherein a parallel monotonic capacitance is not formed between the pixel electrode and the opposite electrode via the display medium.

27. (Amended) The display apparatus according to [any one of claim 11 to claim 17] claim 11, further comprising a means for overlapping a voltage to the driving circuit of the scanning signal via the storage capacitance.

56. (Amended) The display apparatus according to [any one of claims 54 and 55] claim 54, wherein the gate pulse is applied to more than two gate wirings at the same time.

REMARKS

The above preliminary amendment is made to remove multiple dependencies from claims 5, 6, 7, 8, 19, 20, 21, 27 and 56.

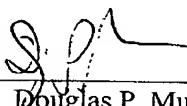
Applicants respectfully request that the preliminary amendment described herein be entered into the record prior to calculation of the filing fee and prior to examination and consideration of the above-identified application.

If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Applicants' primary attorney-of record, Douglas P. Mueller (Reg. No. 30,300), at (612) 371.5237.

Respectfully submitted,

MERCHANT & GOULD P.C.
P.O. Box 2903
Minneapolis, Minnesota 55402-0903
(612) 332-5300

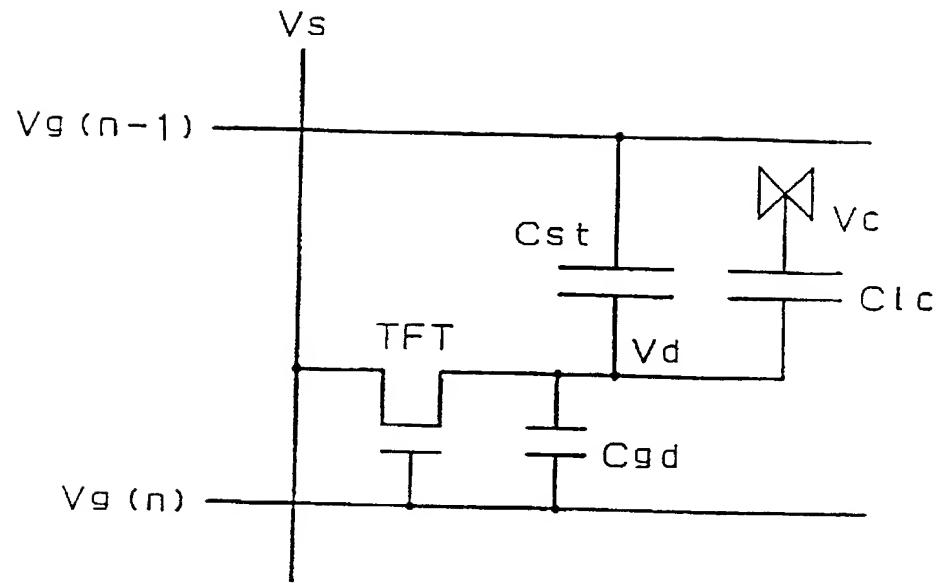
Dated: December 21, 2001

By 
Douglas P. Mueller
Reg. No. 30,300

DPM/tvm

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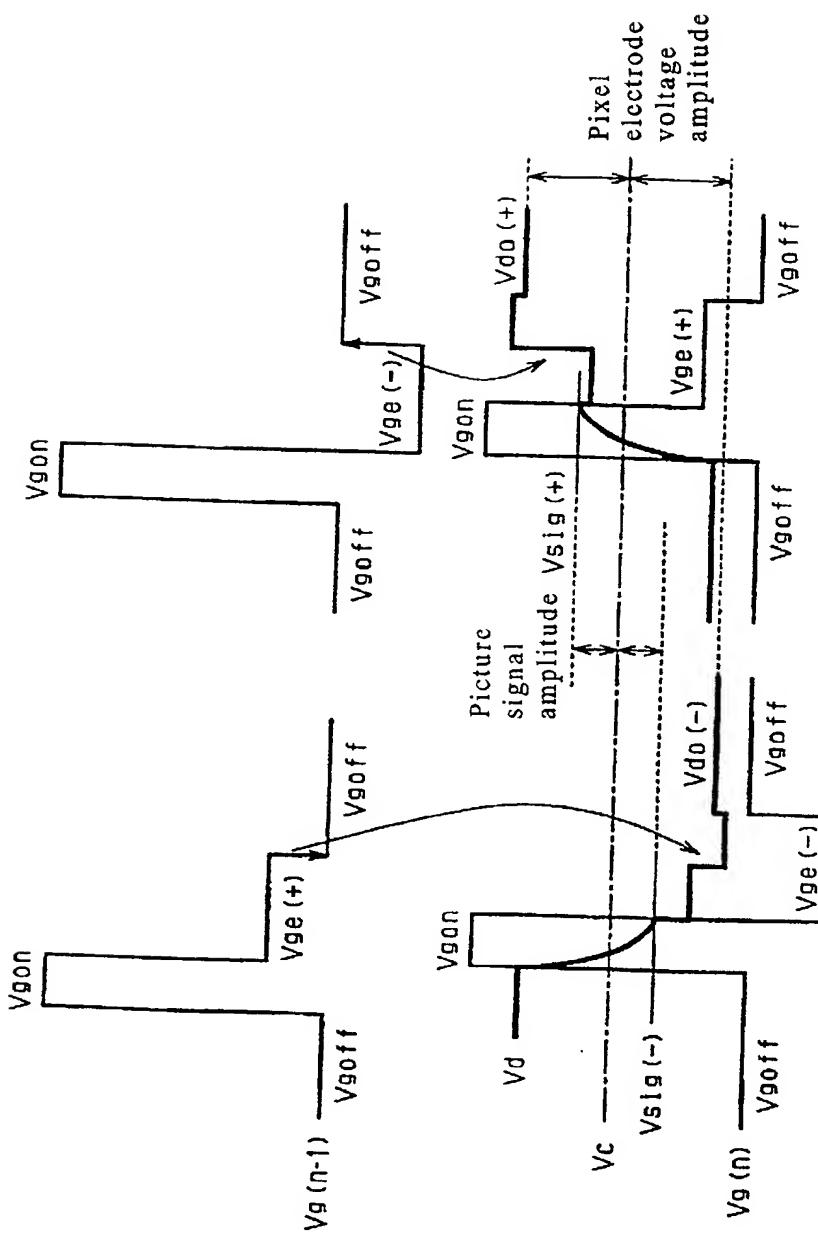
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(PRIOR ART)

FIG. 34

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(Odd number frame)

(Even number frame)

FIG. 35 (PRIOR ART)

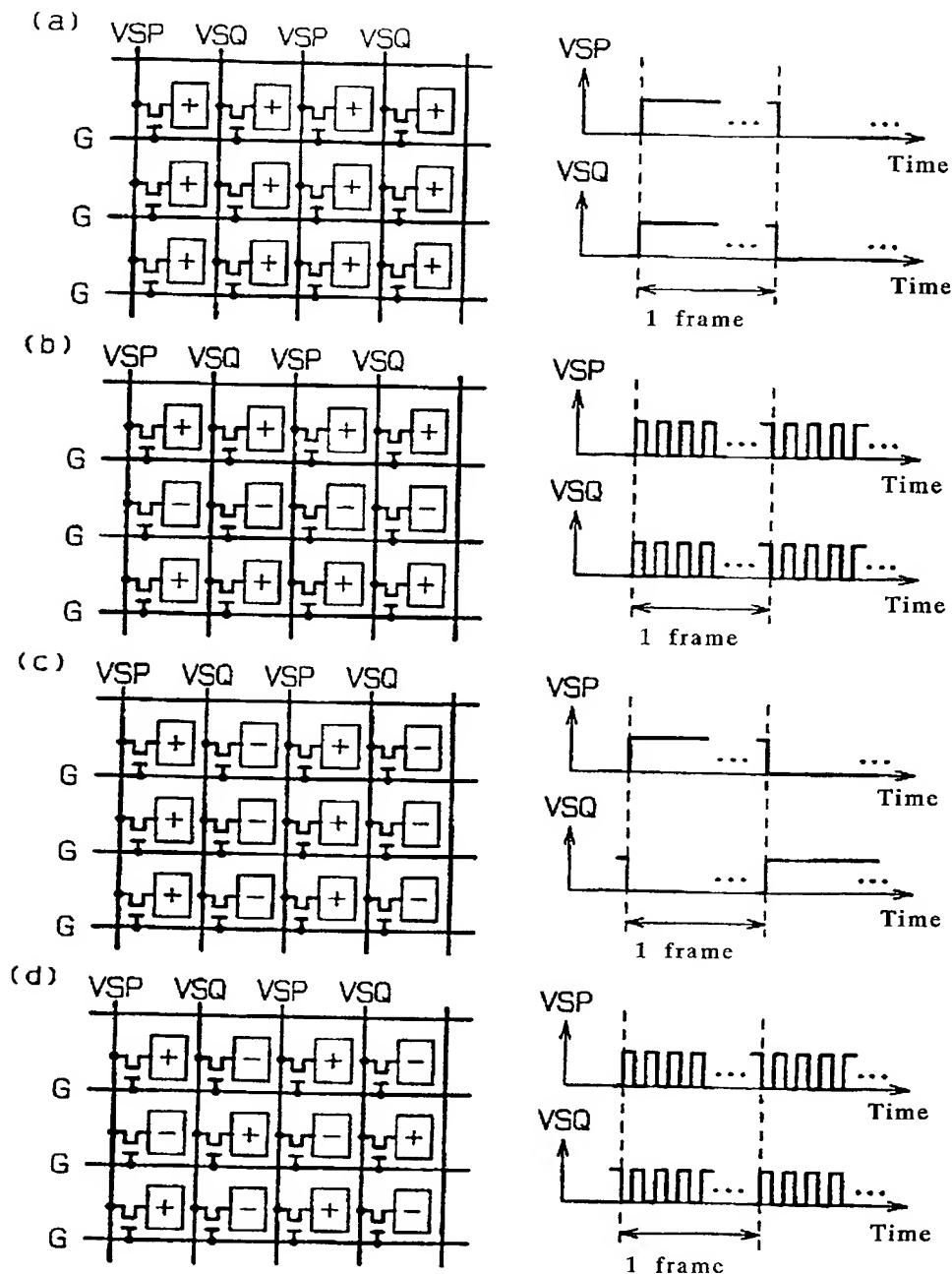
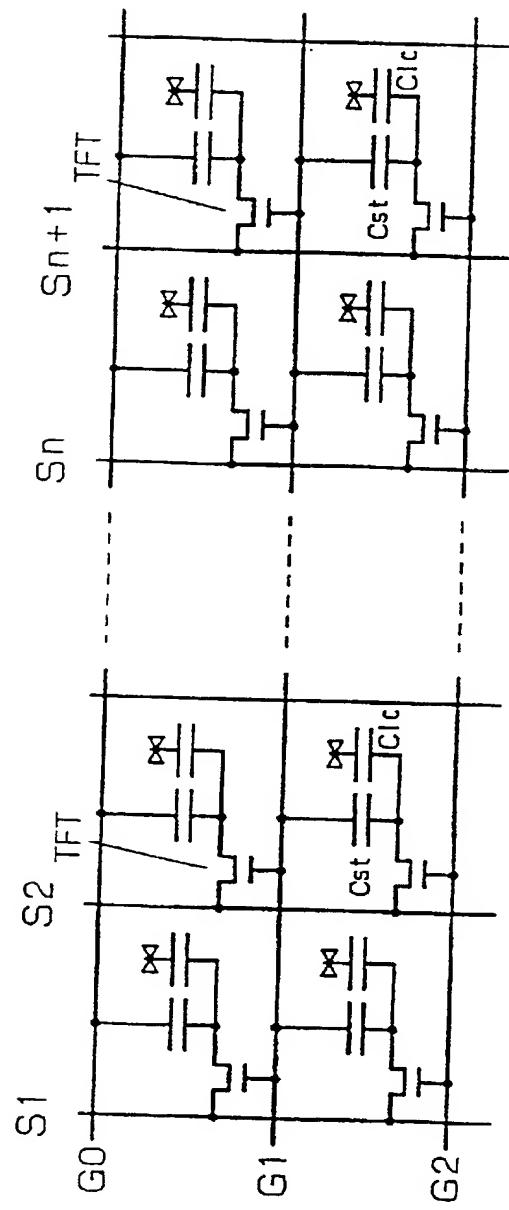


FIG. 36 (PRIOR ART)

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(PRIOR ART)

FIG. 37

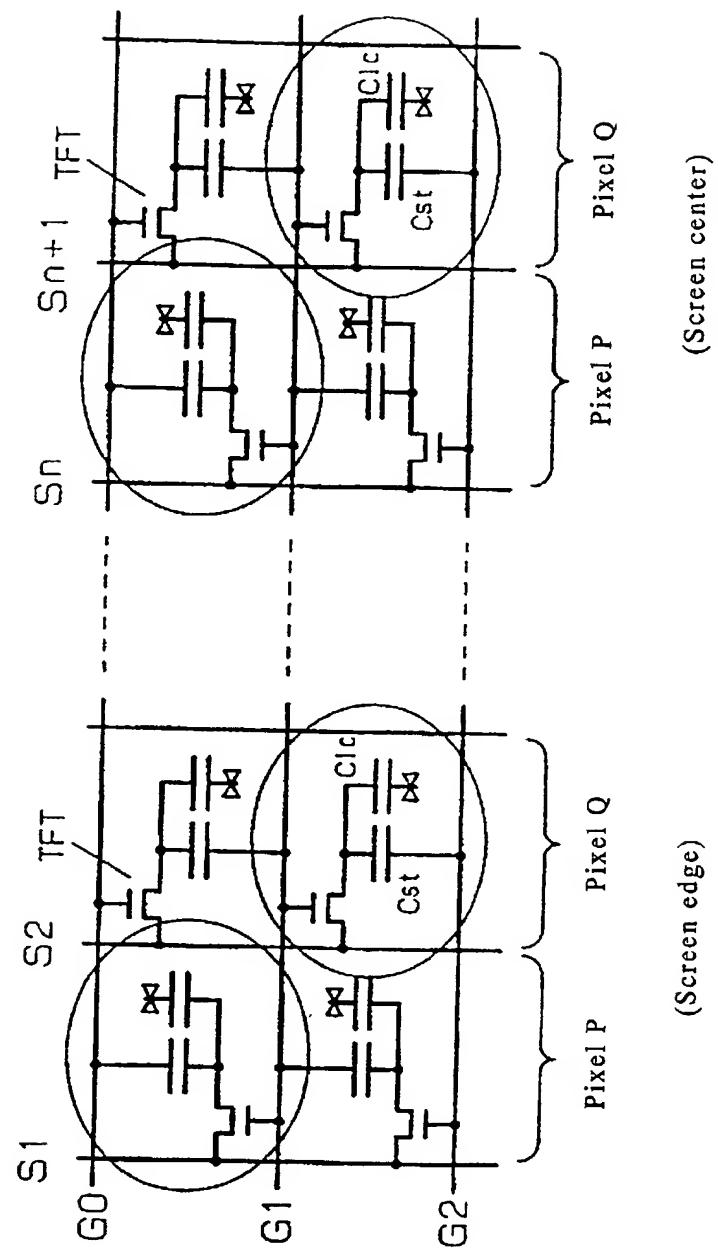


FIG. 38 (PRIOR ART)

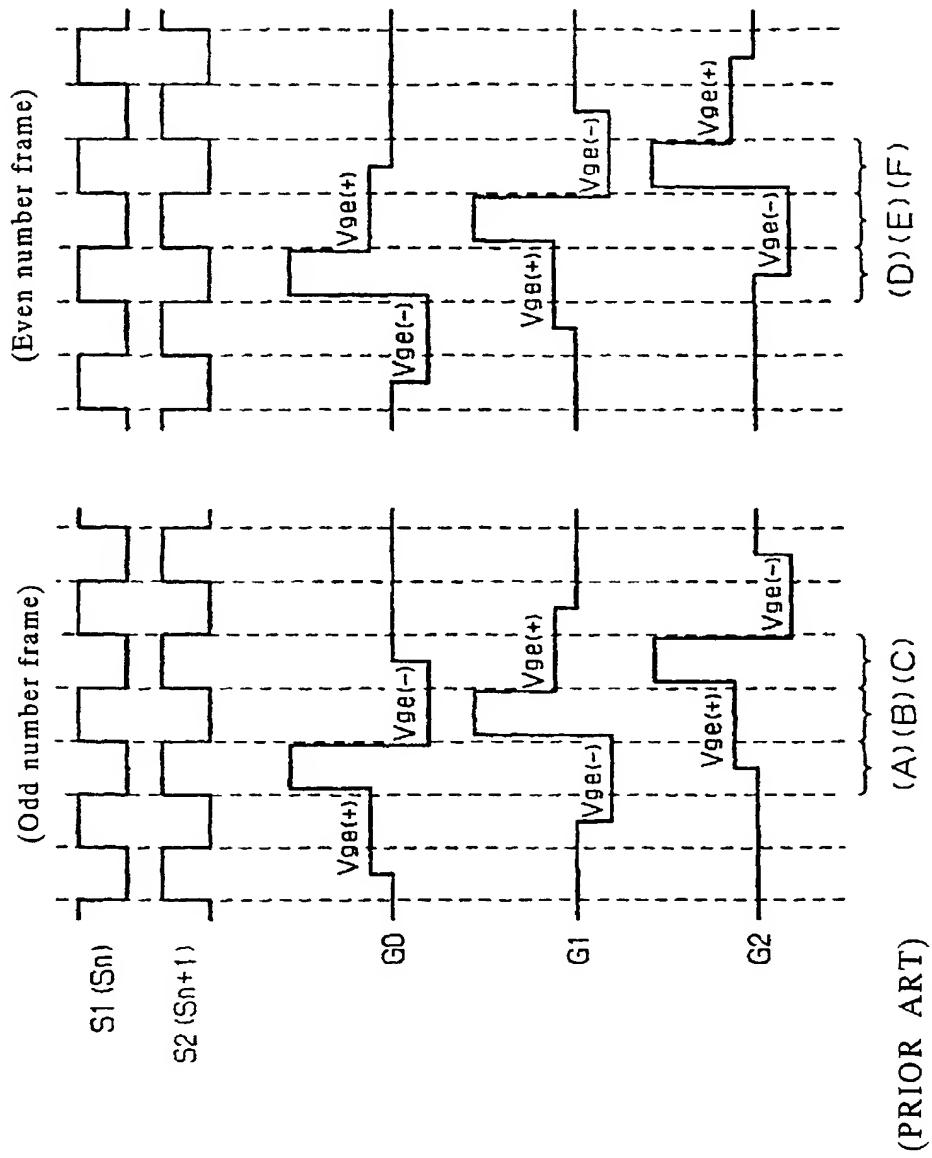


FIG. 39

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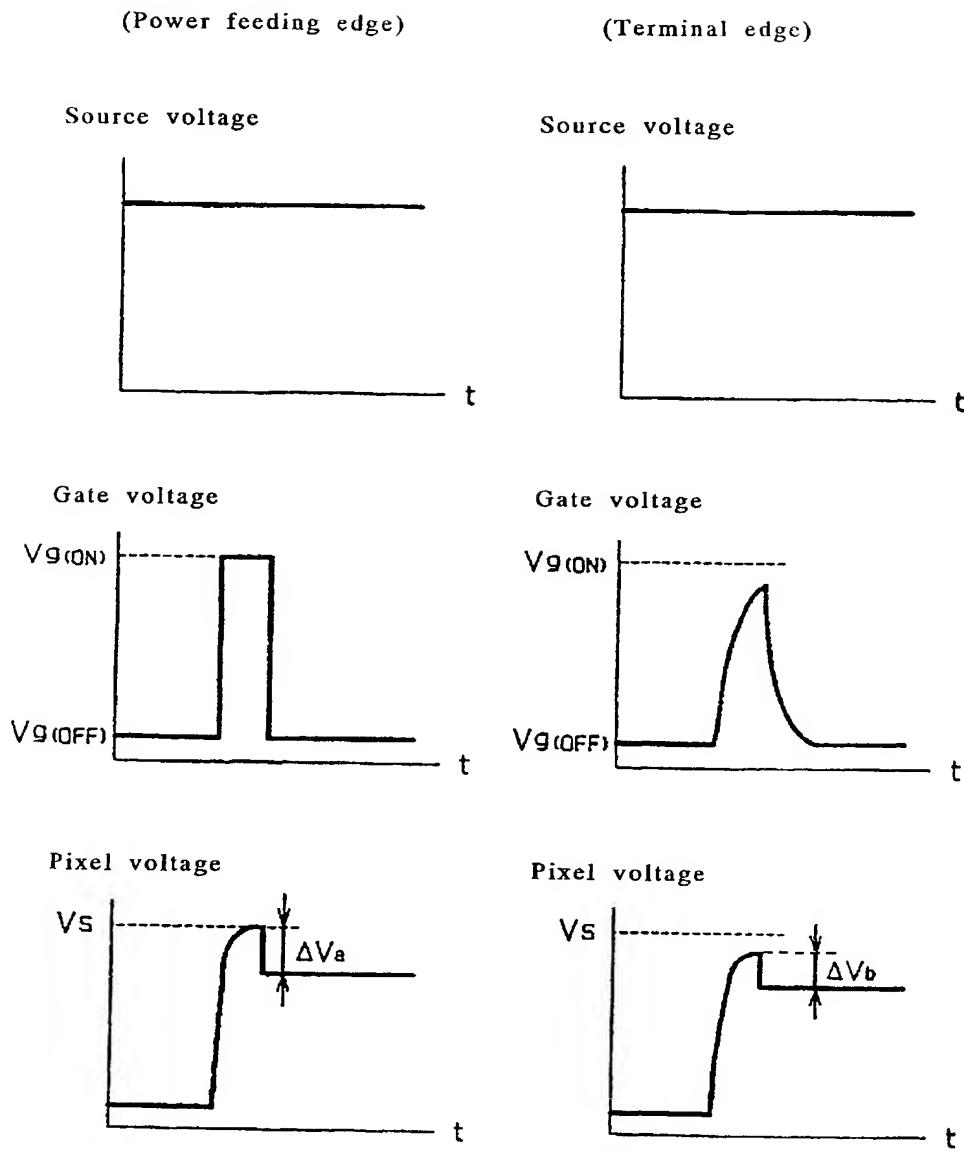
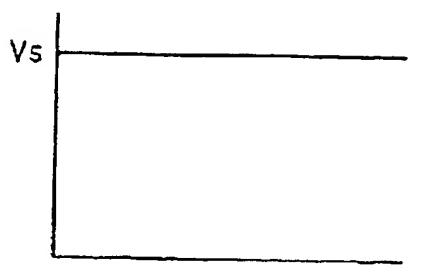


FIG. 40 (PRIOR ART)

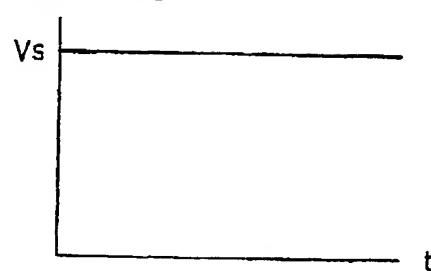
(Power feeding edge)

(Terminal edge)

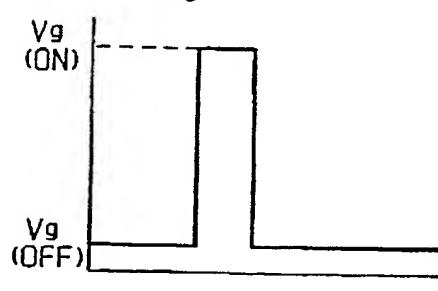
Source voltage



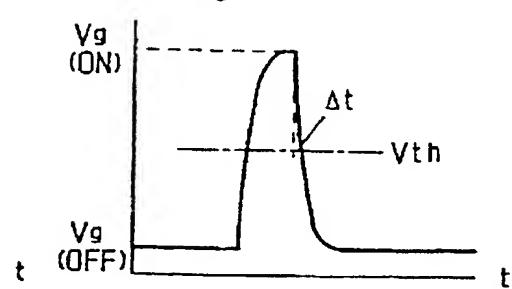
Source voltage



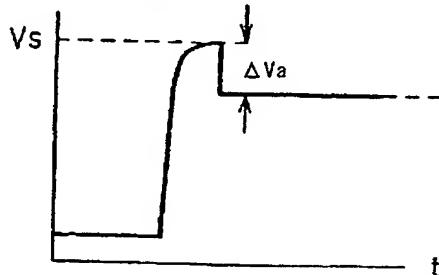
Gate voltage



Gate voltage



Pixel voltage



Pixel voltage

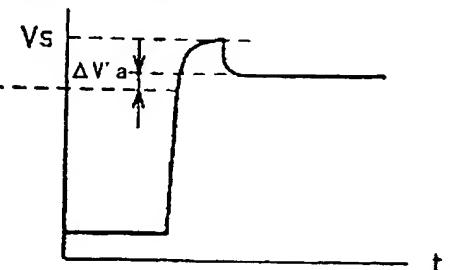
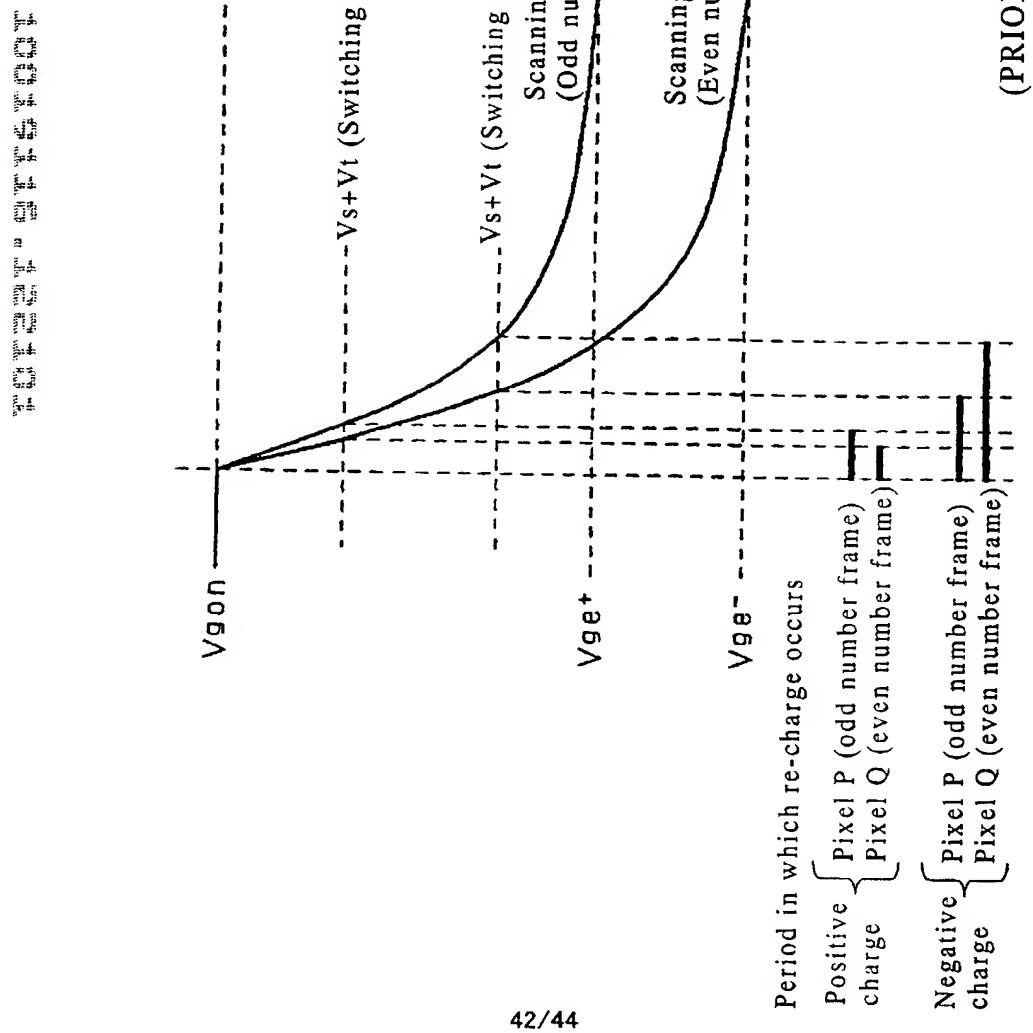


FIG. 41 (PRIOR ART)

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FIG. 42

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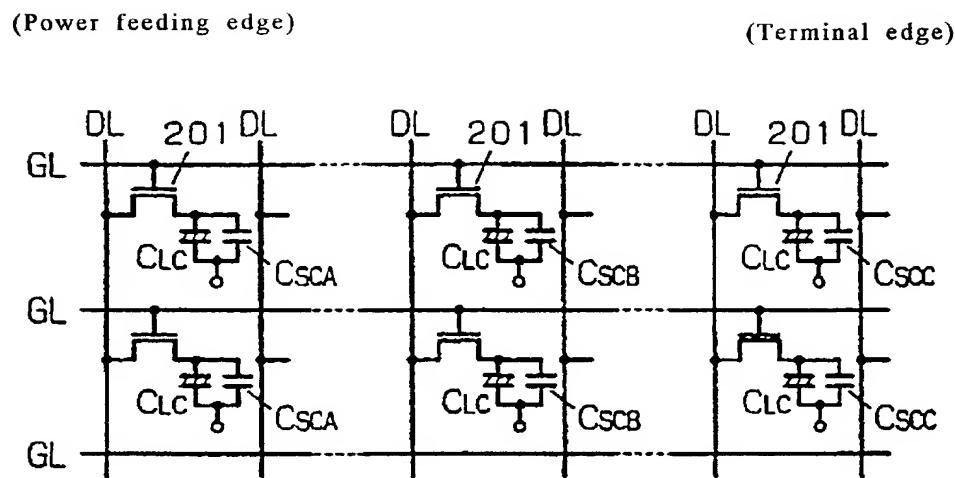
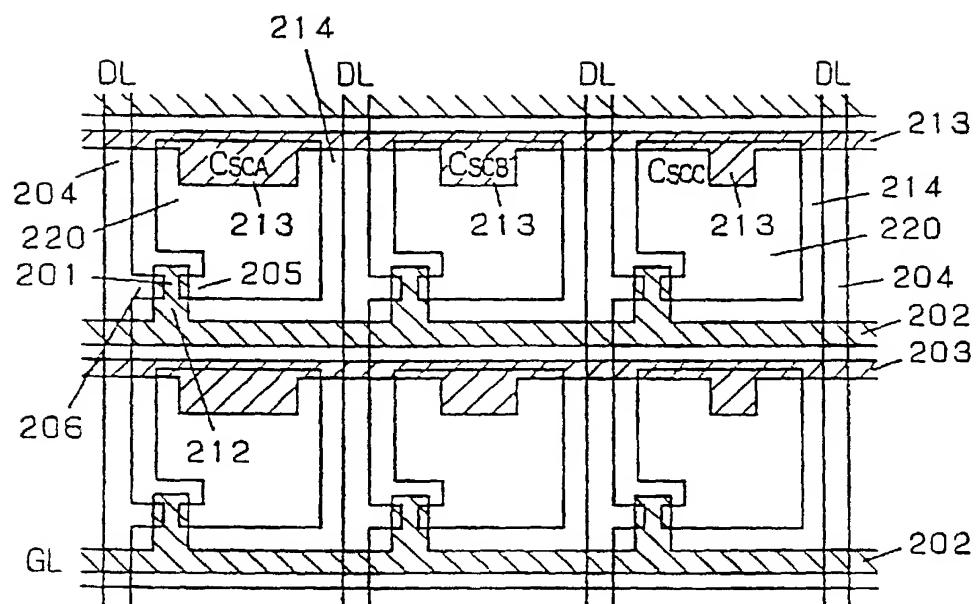


FIG. 43 (PRIOR ART)

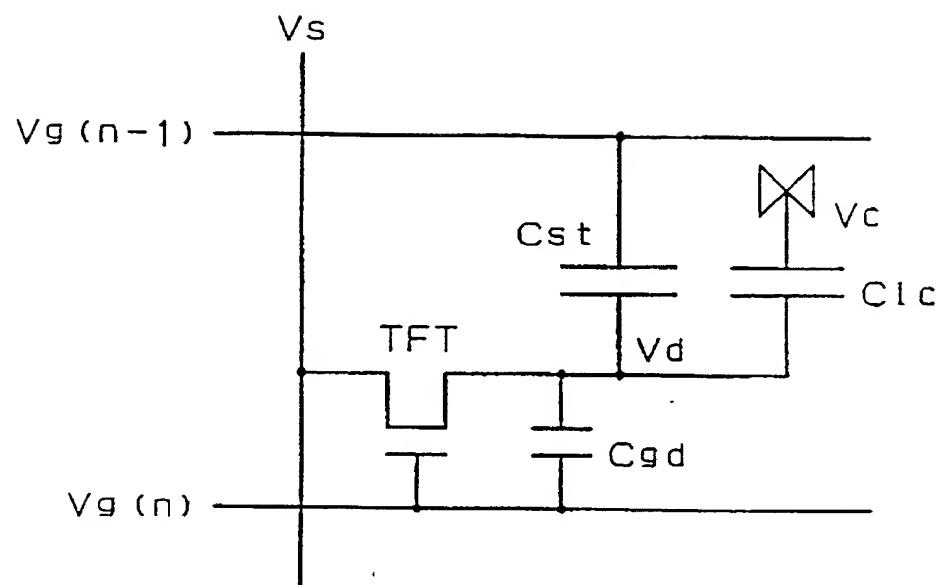
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(PRIOR ART)

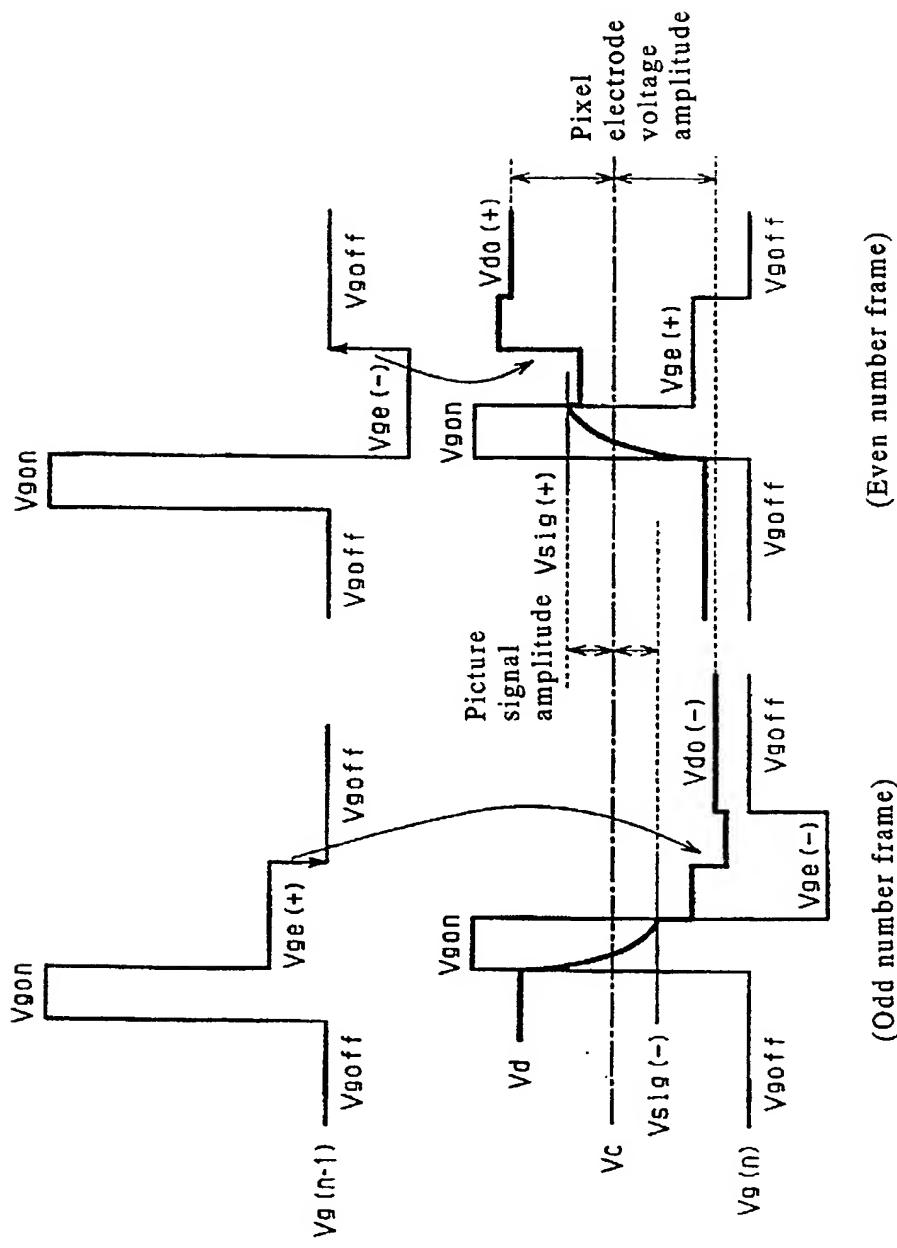
FIG. 44

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— (PRIOR ART) —

FIG. 34



(Odd number frame)

(Even number frame)

FIG. 35 ---(PRIOR ART) ---

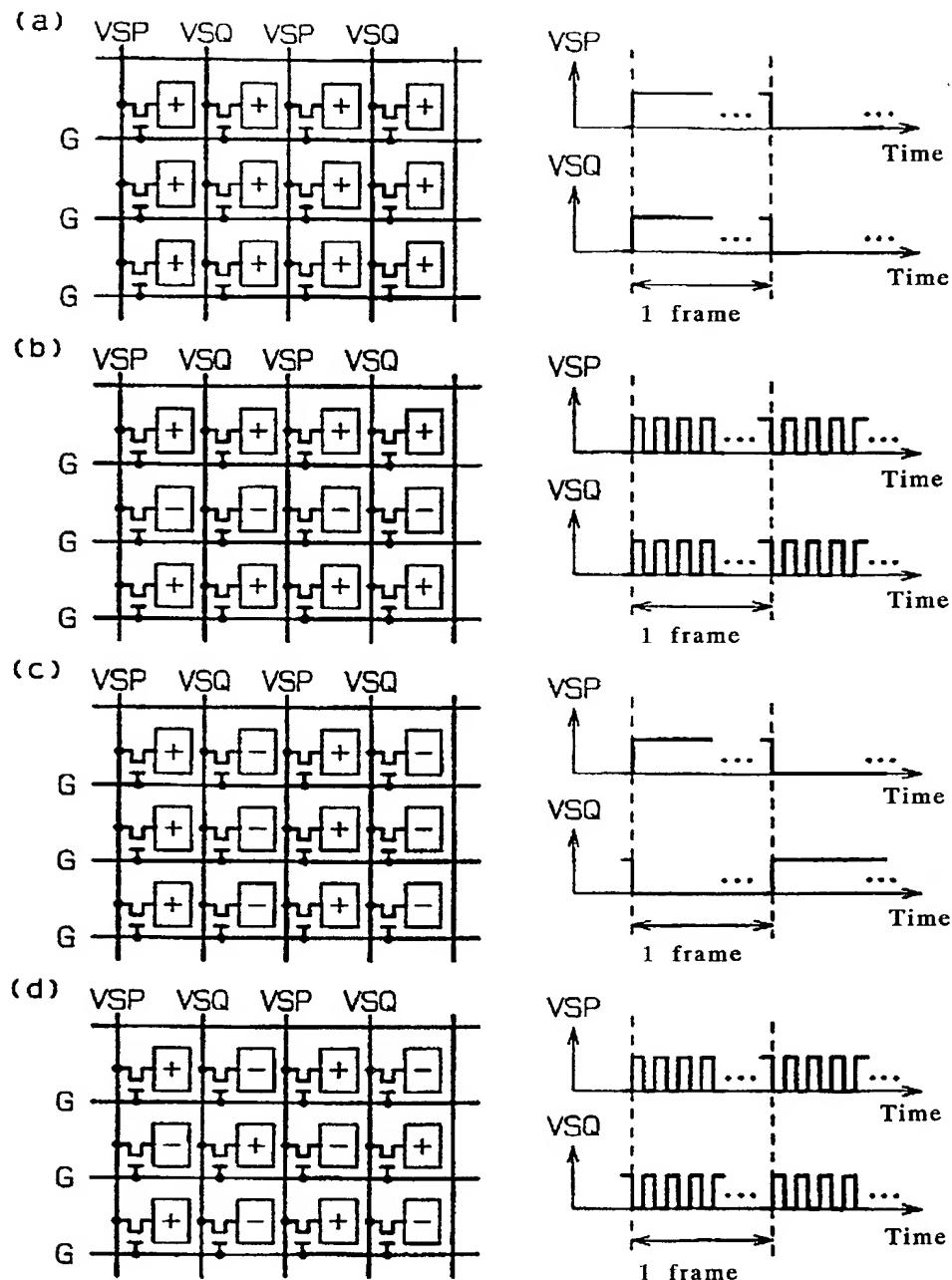
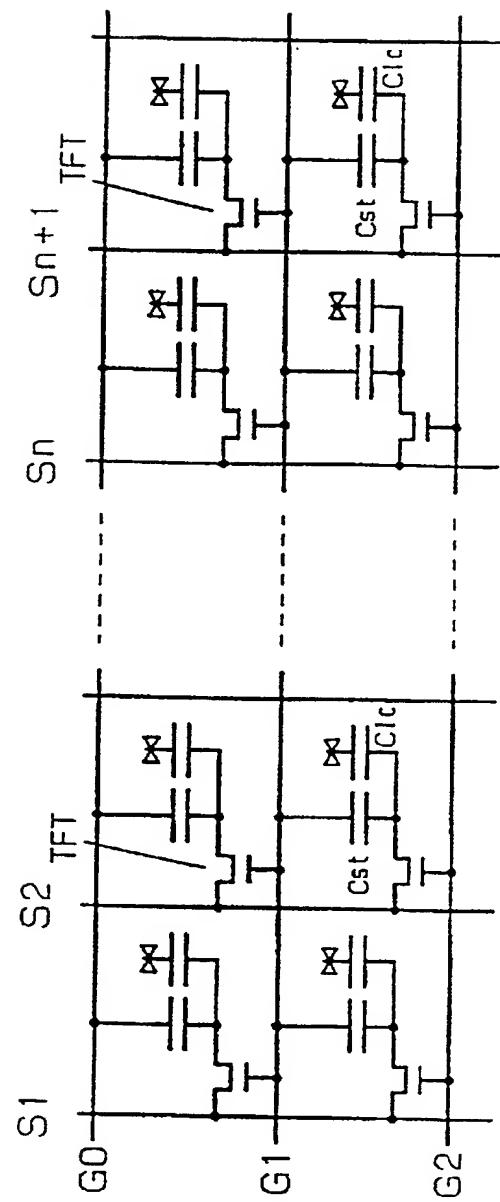


FIG. 36 - -(PRIOR ART) --



-- (PRIOR ART) --

FIG. 37

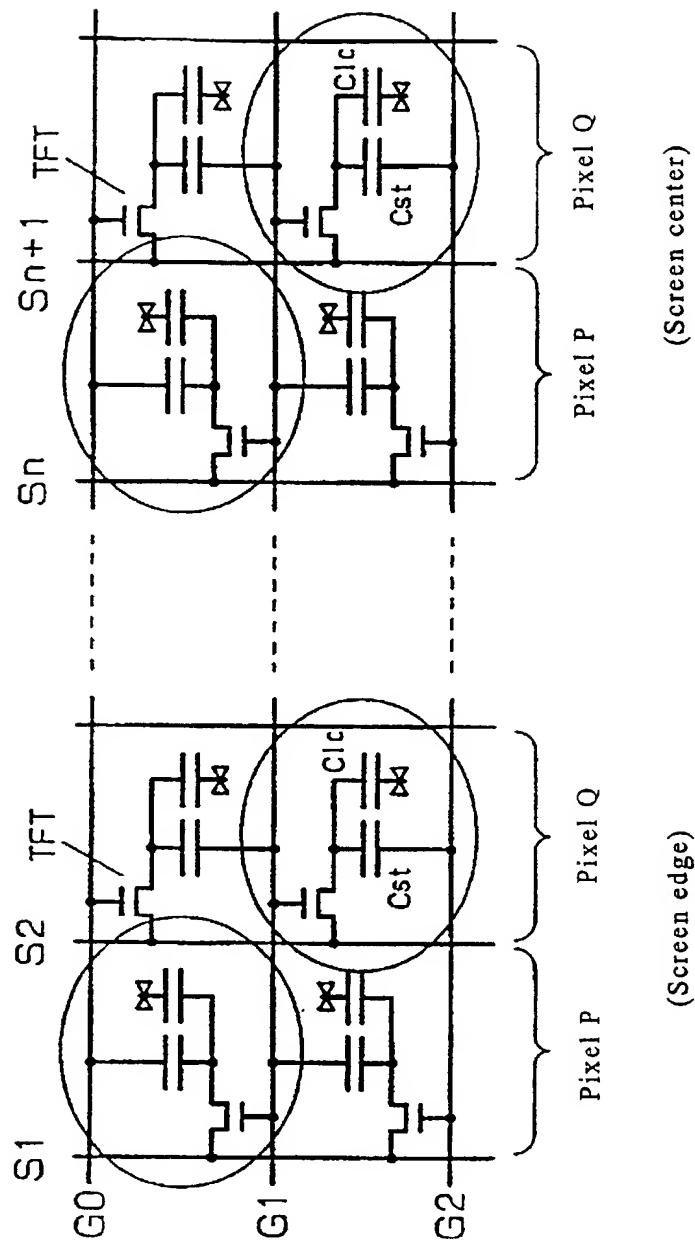


FIG. 38 --(PRIOR ART) --

(Screen center)

(Screen edge)

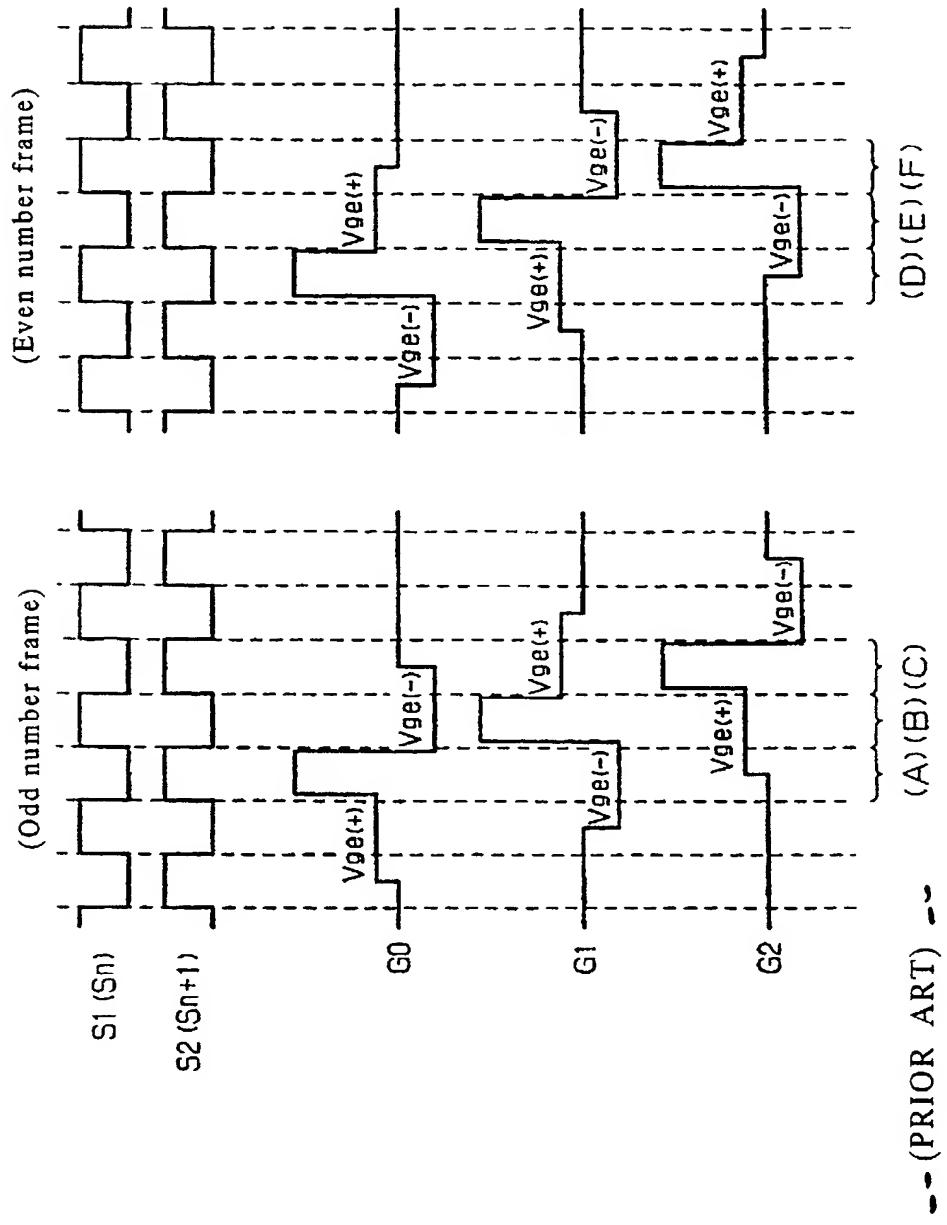


FIG. 39

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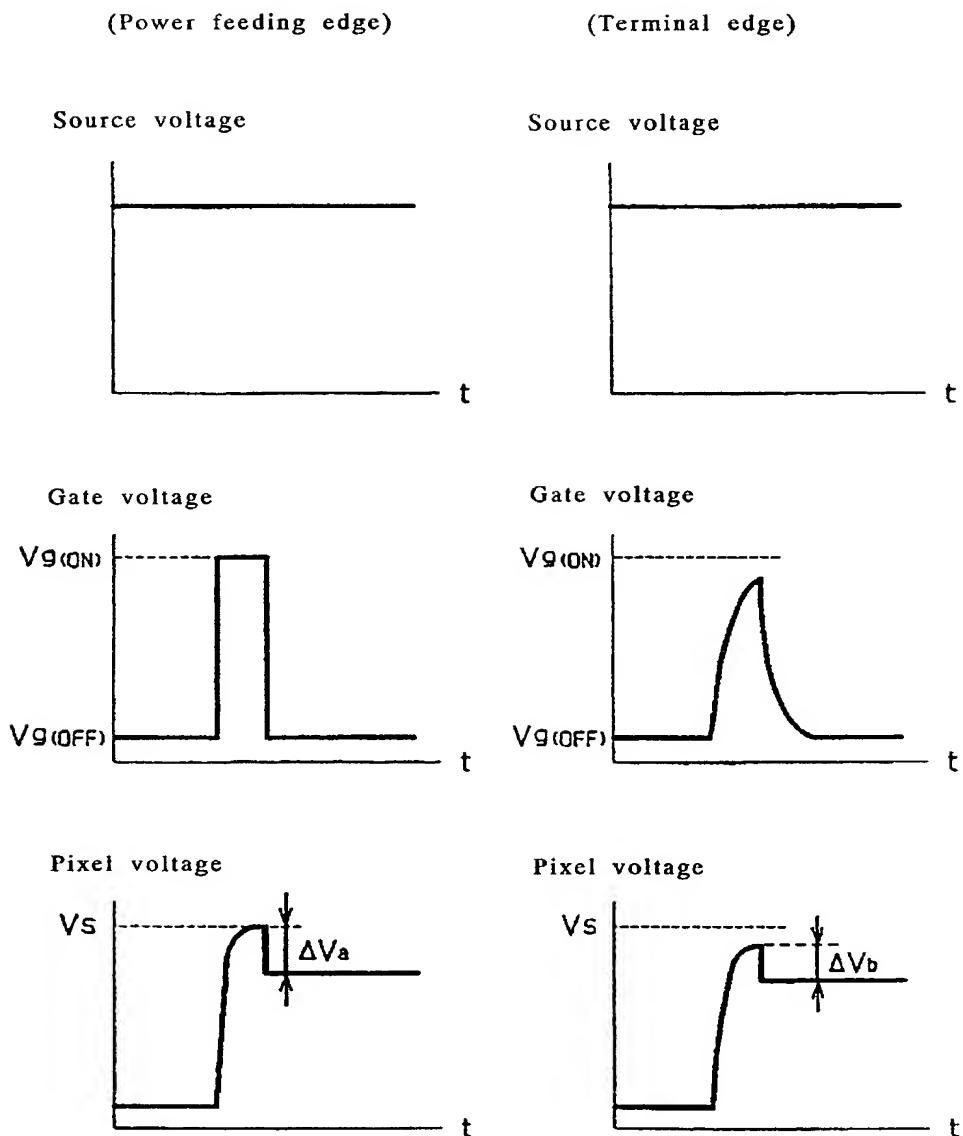


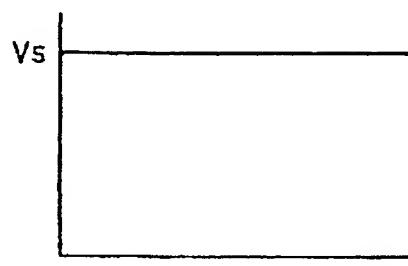
FIG. 40 --(PRIOR ART)--

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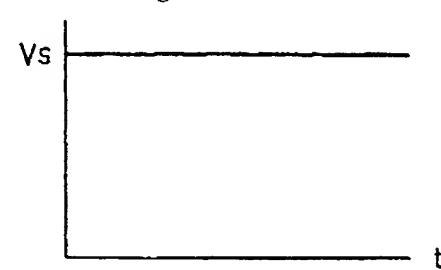
(Power feeding edge)

(Terminal edge)

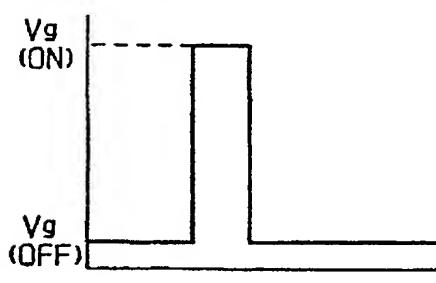
Source voltage



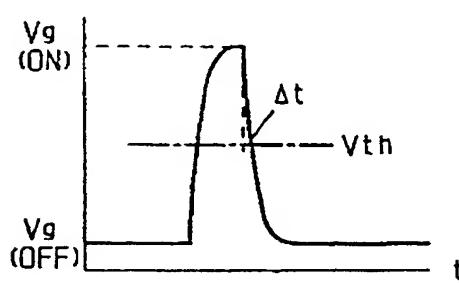
Source voltage



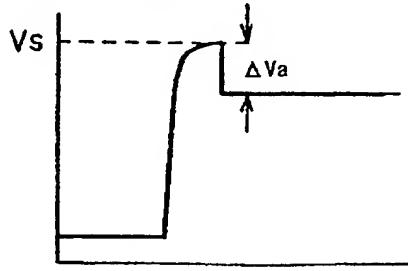
Gate voltage



Gate voltage



Pixel voltage



Pixel voltage

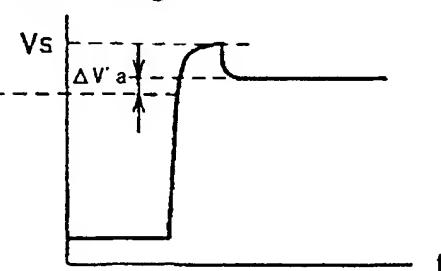


FIG. 41 - (PRIOR ART) --

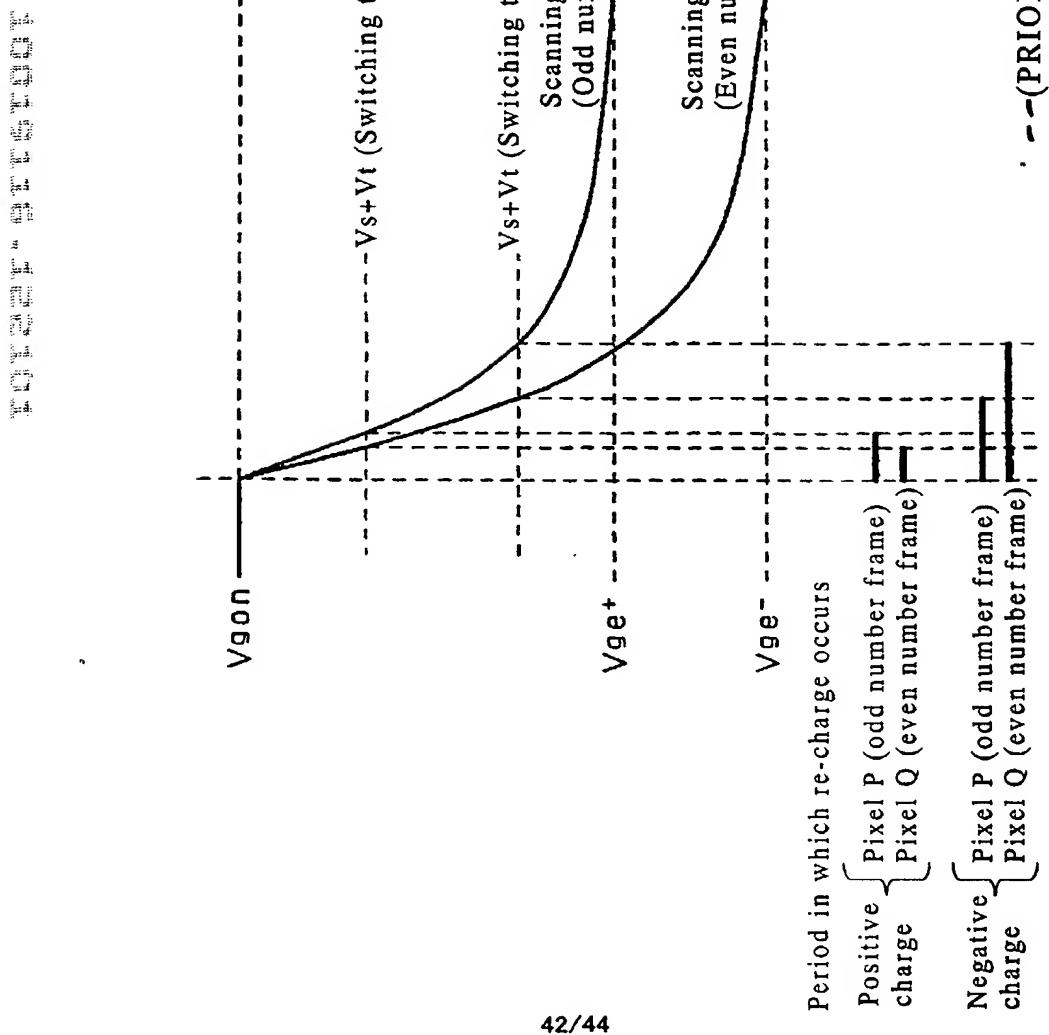


FIG. 42

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(Power feeding edge)

(Terminal edge)

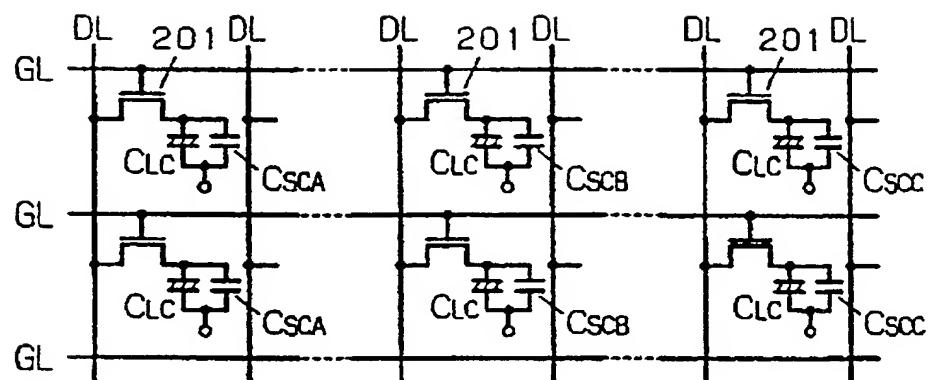


FIG. 43 --(PRIOR ART)--

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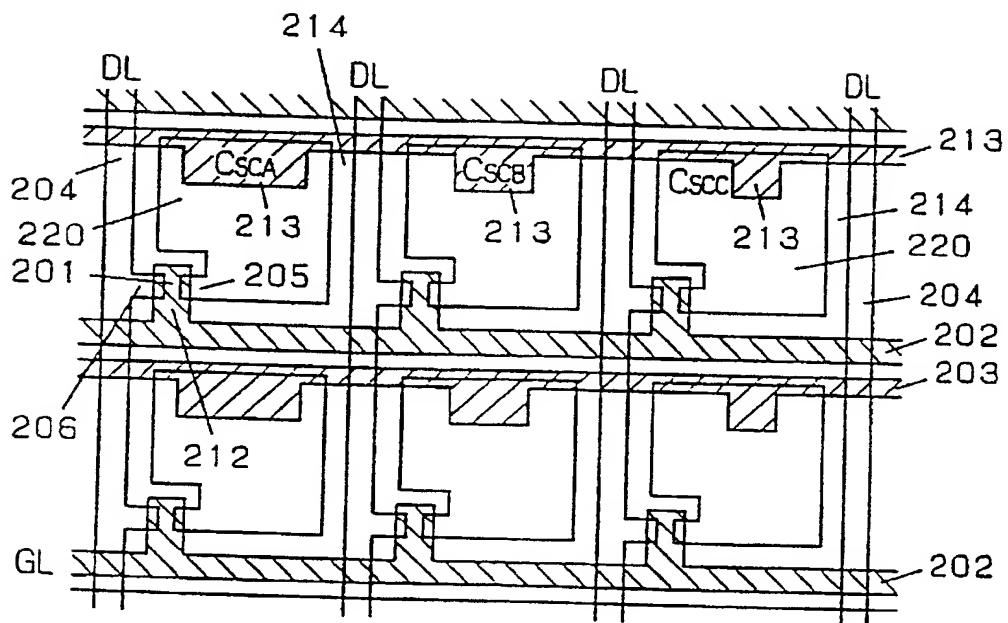


FIG. 44